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10/560,911	12/16/2005	Heinz Haiser	R.306015	6087

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RONALD E. GREIGG
GREIGG & GREIGG P.L.L.C.
1423 POWHATAN STREET, UNIT ONE
ALEXANDRIA, VA 22314

EXAMINER	
COLEMAN, KEITH A	

ART UNIT	PAPER NUMBER
3747	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/560,911	HAISER ET AL.	
	Examiner	Art Unit	
	KEITH COLEMAN	3747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-21 and 23-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-21 and 23-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 13, 14, and 23-27, and 29-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Bessiere (US Patent No. 2,947,258).

With regards to claim 13, the patent to Bessiere discloses in a connection point (11, Col. 4, Line 10) of a chamber (6, Col. 3, Line 60) subjected to high pressure in a body (i.e. fuel injection pump, See Figure 1 and Col. 1, Lines 50-52) subjected to high pressure of a high-pressure injection system for fuel (via delivery conduit 9, Col. 2, Line 21) at a bore (opening 6a connected to conduit 23 and conduit 11), extending through the body (i.e. fuel injection pump, via conduit 23 and 11), which extends substantially vertically in the body (See Figure 1), the improvement comprising an encompassing groove (step near 6a) in the chamber (6) subjected to high pressure of the body (See Figure 1), the bore (opening 6a connected to 23 and 11) discharging into the encompassing groove (step near 6a, See Col. 3, Lines 54-65) forming an intersection point (6a, See Figure 1), wherein the connection point is **the intersection** [of a differential pressure chamber (6)], **controlling a pressure amplifier** (throttle valve 12,

Col. 2, Lines 42-62), and a control line (11) in the form of a bore (opening 6a connected to 23 and 11) that subjects the differential pressure chamber (6) to pressure.

With regards to claim 14, the patent to Bessiere discloses wherein the encompassing groove (step near 6a, See Figure 1) is preferably disposed in the bottom region of the chamber (6) subjected to high pressure (See Figure 1).

With regards to claim 23, the patent to Bessiere discloses wherein the control line (11) is embodied as a through bore (opening 6a connected to 23 and 11) in the high-pressure-carrying body.

With regards to claim 24, the patent to Bessiere discloses at least one further bore (chamber 6a) connected bound to the encompassing groove (step of 6a) in the high-pressure-carrying body (See Figure 1).

With regards to claim 25, the patent to Bessiere discloses a connection point (11) of a cylindrical chamber (6) subjected to high pressure in a body subjected to high pressure of a high-pressure injection system (i.e. fuel injection pump, See Figure 1), a bore (6a), extending through the body (i.e. fuel injection pump, via conduit 23 and 11), the improvement comprising an encompassing groove (step near 6a) in the cylindrical wall of the cylindrical chamber of the body (See Figure 1), the bore discharging into the

encompassing groove (6a) and thus forming an intersection point within the encompassing groove (6a).

With regards to claim 26, the patent to Bessiere discloses wherein the encompassing groove (6a) is preferably disposed in the bottom region of the cylindrical wall of the cylindrical chamber (6).

With regards to claim 27, the patent to Bessiere discloses wherein the encompassing groove (6a) forms an intersection with the bore that is free of excessively elevated stress.

With regards to claim 29, the patent to Bessiere discloses wherein the encompassing groove is an encompassing groove which is embodied with a curved or angular contour at a constant depth in the body (See Figure 1).

With regards to claim 30, the patent to Bessiere discloses wherein the cylindrically shaped pocket or the encompassing groove is a cylindrically shaped pocket which is embodied as semicircular, curved, or angular in the cylindrical wall that defines the chamber (See Figure 1).

With regards to claim 31, the patent to Bessiere discloses wherein the cylindrically shaped pocket has its maximum depth at the orifice of the bore (See Figure 1).

With regards to claim 32, the patent to Bessiere discloses wherein the cylindrically shaped pocket, on both sides of the orifice of the bore, has symmetrical ending regions into the bore (See Figure 1).

With regards to claims 21 and 33, the patent to Bessiere discloses wherein the connection point is embodied, depending on the shape of the groove, as an opening of oval or rectangular geometry (See Figure 1). From the cross-sectional view in Figure 1, it appears that the conduits 11 and 23 are of a rectangular structure and are deemed as a connection point of rectangular geometry.

With regards to claim 34, the patent to Bessiere discloses defined by **the intersection** [of a differential pressure chamber], **controlling a pressure amplifier**, and a control line in the form of a bore that subjects the differential pressure chamber to pressure or relieves it of pressure and that leads to a valve that actuates the pressure amplifier (See Rejection in Claim 1).

With regards to claim 35, the patent to Bessiere discloses wherein the control line is embodied as a through bore in the high-pressure-carrying body (See Figure 1).

With regards to claim 36, the patent to Bessiere discloses further comprising at least one further bore connected to the encompassing groove (See Figure 1)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 15-20, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bessiere (US Patent No. 2,947,258).

With regards to claim 17, the patent to Bessiere discloses wherein the **encompassing groove** (step near 6a, See Figure 1) **which** is embodied with a curved contour at a constant depth in the body (See Figure 1). Since Bessiere discloses that a cylinder is used, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the chamber 6 of Bessiere with the step is circular or curved contour in shape in order to create a seal that contours to the piston (5), in order to create a seal that contours to the cylindrical shape of the piston (5).

With regards to claim 18, the patent to Bessiere discloses all the limitations of the claimed subject matter including positively disclosing wherein a pocket is embodied in the wall in the body that defines the chamber (6) subjected to high pressure (See Figure 1), except positively disclosing the pocket is cylindrical in shape and is embodied as curved in the wall in the body. Since Bessiere discloses that a cylinder is used, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the chamber 6 of Bessiere with the pocket is cylindrical in shape and is embodied as curved in the wall in the body, in order to create a seal that contours to the cylindrical shape of the piston (5).

With regards to claim 19, the patent to Bessiere discloses wherein the cylindrically shaped pocket (See Rejection in Claims 18 and 19) has its maximum depth at the orifice of the bore (opening 6a connected to 23 and 11).

With regards to claim 20, the patent to Bessiere discloses wherein the cylindrically shaped pocket (See Rejection in Claims 18 and 19), on both sides of the orifice of the bore, the pocket has symmetrical ending regions into the bore (opening 6a connected to 23 and 11). Since the step region near 6a is on both sides of chamber 6 and appears symmetrical, it is deemed that the pocket has symmetrical ending regions into the bore.

With regards to claims 15 and 27, the patent to Bessiere discloses wherein the cylindrically shaped pocket (i.e. step near 6a, See Rejection in Claims 19 and 18), with the chamber (6) subjected to high pressure, forms an intersection **with the bore** that is free of excessively elevated stress. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the intersection of Bessiere with an intersection that is free of excessively elevated stress, in order to optimize structural integrity and prevent permanent deformation.

With regards to claims 16 and 28, the patent to Bessiere discloses wherein the intersection point acts as a notch effect point, at which reduced stress levels (Ymax.2,

amax.3 are established in operation of the body subjected to high pressure. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the intersection of Bessiere with reduced stress levels (Ymax.2, amax.3 that are established in operation of the body subjected to high pressure, in order to optimize structural integrity and prevent permanent deformation.

Response to Arguments

Applicant's arguments filed 3/13/2008 have been fully considered but they are not persuasive.

Applicant's Arguments

Applicant argues that "Bessiere does not teach the structure of a differential pressure chamber which controls a pressure amplifier, which is clearly recited in this claim."

Examiner's Response to Arguments

Examiner agrees that Bessiere does not in fact disclose the following limitation, a differential pressure chamber (6) which controls a pressure amplifier (12).

However, the claim as written clearly states, "**the intersection** of a differential pressure chamber (6), **controlling a pressure amplifier** (throttle valve 12, Col. 2, Lines 42-62), and a control line (11) in the form of a bore (opening 6a connected to 23 and 11)

that subjects the differential pressure chamber (6) to pressure," or stated in another way, **the intersection controlling a pressure amplifier**, because the subordinate clauses, "of a differential pressure chamber" and participial phrase "controlling a pressure amplifier" are used as modifiers for the noun "**the intersection**". See Quote Below.

Applicant is also reminded that See MPEP 2111. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969) The court explained that "reading a claim in light of the specification, to thereby interpret limitations explicitly recited in the claim, is a quite different thing from 'reading limitations of the specification into a claim,' **to thereby narrow the scope of the claim by implicitly adding disclosed limitations which have no express basis in the claim**." Thus, the claim is not limited to such interpretation and the rejection still holds.

Applicant is reminded to See MPEP 2125. Drawings and pictures can **anticipate claims if they clearly show the structure which is claimed.** In re Mraz, 455 F.2d 1069, 173 USPQ 25 (CCPA 1972).

As explained above and to further bolster Examiner's point, the following quote is provided,

"One January day, thirty years ago, **the little town** of Hanover, **anchored on a windy Nebraska tableland,** was trying not to be blown away.

(Willa Cather, O Pioneers!)

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEITH COLEMAN whose telephone number is (571)270-3516. The examiner can normally be reached on 5:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Cronin can be reached on (571)272-4536. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KAC
/K. C./
Examiner, Art Unit 3747

/Stephen K. Cronin/
Supervisory Patent Examiner, Art Unit 3747